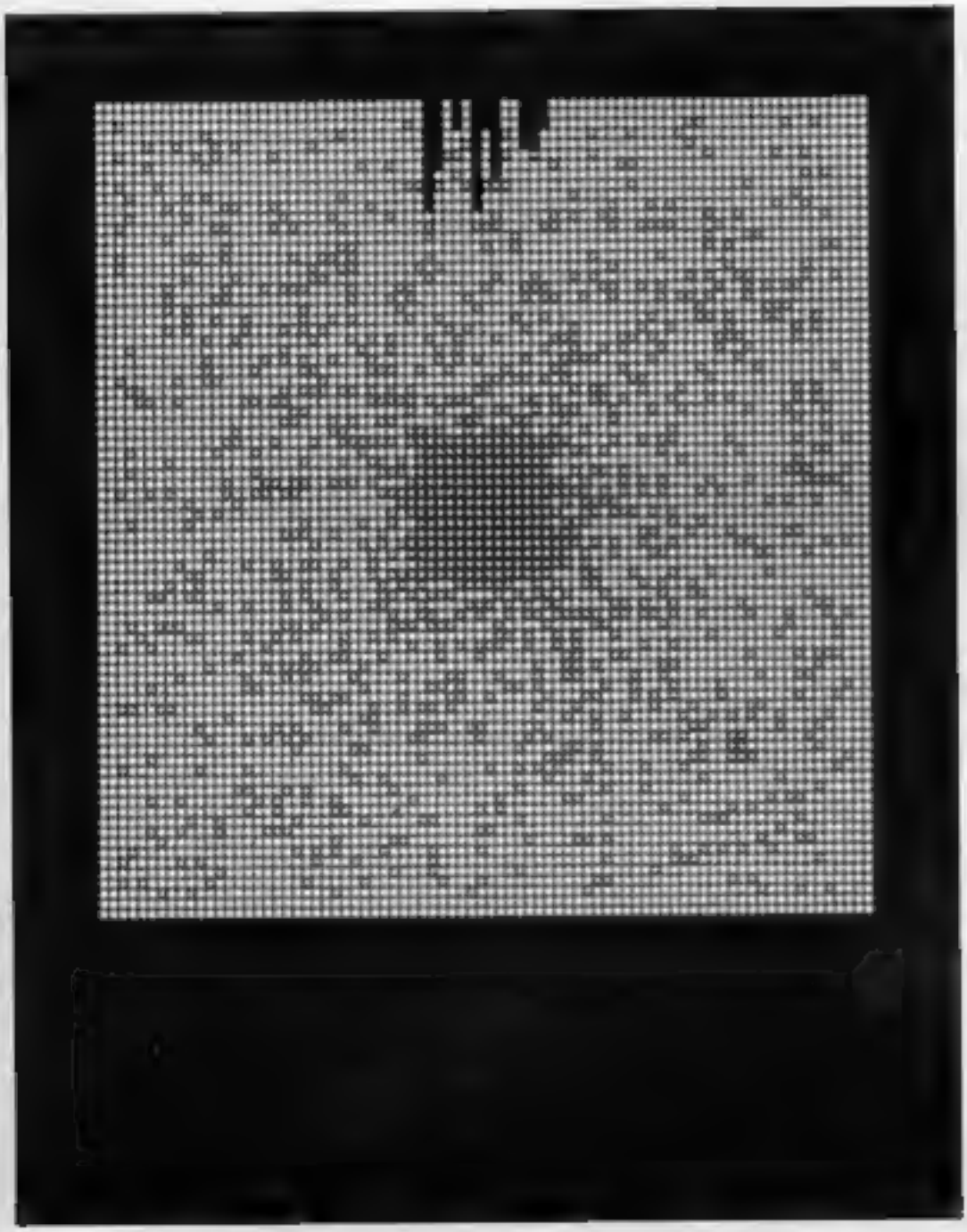
"Ylem" is the primordial stuff out of which the universe emerged

Ylem

ARTISTS USING SCIENCE & TECHNOLOGY

March 1983



© Aaron Marcus

Finding the Soul in Computer Art

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Saturday
March 26
2-5 pm

Palo Alto Cultural Center
1313 Newell Rd. P.A.

◆

Co-sponsored by Ylem,
artists using science
and technology,

and the

Arts and Sciences Division
of the City of Palo Alto

FREE

Bring friends!

Bring Art!

CALENDAR

Now until March 25	COLOR XEROX AND COMPUTER GRAPHICS by TLEM member Eleanor Kent on display at Los Medanos College Gallery, 2700 East Leland Road, Pittsburg, CA. Gallery hours are 10am until 2pm Monday thru Thursday.
March 4 until April 2	"HYPNOTIC SUGGESTIONS", paintings and drawings by Wanda Church including works depicting extra terrestrial landscapes are showing at Sculpture Studio and Gallery, 450 Colusa, Kensington, CA.
March 19 9:30-2:30 pm	BUILDING A HOMO PRINT WORKSHOP by Sight and Insight Visual Arts group. Cost is $30 for non members and $20 for members. Workshop is at 636 Throckmorton, Mill Valley. For reservations and information call (415)388-6321.
March 23 7pm	POTLUCK SOFTWARE AND SUPPER, bring food and software to review. Equipment and beverages provided. Bayside Middle School, Room 21, 2285 Indian Avenue, San Mateo.

March 26 8-9pm	FINDING THE SOUL IN COMPUTER ART will be the topic of a panel discussion for the March TLEM meeting at the Palo Alto Cultural Center, 1313 Newell Road, Palo Alto. Panelist will include Ken Knowlton and Robert Doerr. In addition to the panel discussion and audience interaction there will be speakers, a film and exhibits. Bring your computer art to share.

March 26 8:30-2:30 pm	PERCEPTION WORKSHOP by Sight and Insight Visual Arts group. Cost is $30 for nonmembers and $20 for members. Workshop is at 636 Throckmorton, Mill Valley. For reservations and information call (415)388-6321.
March 26 8-12 pm	TEC FETE '83, a user friendly party sponsored by San Francisco Art Institute, will feature laser art, computer graphics, holograms, large screen projections, robots, music and more. Tickets for the scholarship fundraiser are $60 and are available at BASS outlets.
March 31 until April 5	THE COMPUTER AND ITS INFLUENCE ON ART AND DESIGN, a conference on the concern for the practical and aesthetic use of computer technology, will feature speakers, vendors and exhibits. Registration $20. Write Department of Conferences and Institutes, 204 Nebraska Center, University of Nebraska, Lincoln, NE 68583-0900.
April 4	FUNDING NONPROFIT PROGRAMS BY OPERATING BUSINESSES: how to escape the grant syndrome begins with lecture at United Way of the Bay Area. Workshop to follow on April 11 or 12. Cost is $75 for two day lecture/workshop. For more information: Inquiring Systems Inc., 2640 College Ave., Berkeley, CA 94704, or (415)843-3336.

April 9 & 10 9am-4pm	TLEM GARAGE SALE at Grady Myers Keegan's house, 967 Georgia, Palo Alto. Be there and bring your friends. TLEM members there at 5pm Sunday are invited to supper.

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opportunities

April 12 until June 5	ART TEC ARE ART BY HAND SHOW at Euphrat Gallery, DeAnza College, Cupertino featuring interactive computer exhibits, video displays and other surprises. Gallery hours: Tuesday - Thursday 11am to 4pm; Wednesday and Thursday 7pm to 9pm; Sunday 1pm to 4pm.
April 20 7:30pm	ART AND MUSIC ON COMPUTERS. Demonstration of alpha Syntauri by Diane Wiedhoph and Ron Afford. Pam Sharp on curriculum for alpha and logo. New offices of alpha Syntauri Co. in Palo Alto.
Deadline April 1	COMPUTER GRAPHICS WORLD magazine is planning an issue on computer graphics in the arts. Contributions on 35mm or 4x5 film transparencies will be selected based on a juried review. Questions should be directed to Patrick Wagner at(415)398-7156.
May 7	WORKSHOP ON ART, COMPUTERS AND EDUCATION will be held at Euphrat Gallery in conjunction with the "Art Tec" show. Gallery is on the DeAnza College campus in Cupertino. Call (408)996-4836 for more details.
Deadline June 24	SIGGRAPH '83 needs film, video art, cover designs and installations. This computer graphics extravaganza will be held July 25-29 in Detroit Michigan. For more information contact SIGGRAPH Conference Office, 111 East Wacker Dr. Chicago, IL 60601.
Continuing	PROPOSALS FOR GALLERY SPACE USE are being accepted from artists who wish to show works, do performances, give seminars and fabricate installations. Space rental fee is $25 per week. Shows are usually scheduled for three weeks. For more information: Michael Shamchuck, Yerba Buena, 68 Brannan St., San Francisco, CA 94107, (415)981-4130.

YELM NOTES

January Meeting

By Trudy Myrrh Reagan

The January Ylem meeting in Oakland, which was organized by Duanne Dalbridge, was a visual feast on the subject of Imaging.

David Warren, who saved the camera obscura at Cliff House in San Francisco from demolition, explained how it works, its origins in the Renaissance, and its influence on the invention of photography. Some of us have already used the free tickets he gave the audience and have discovered what a delightful experience it is to visit.

Louis Brill had colorful slides illustrating experiments with light images, a few of which were even mentioned in medieval monastic texts. He brought us up to the present day with lasers, holography, and video feedback images. Very interesting things were done early in the 20th century using theatre organs and moving light projection systems. Some composers wrote scores with notations of the colors they felt in conjunction with the sounds - a visual score.

A film using computer graphics to model in 3-D a topological transformation of a sphere called "Turning A Sphere Inside Out" was also shown at the meeting. There is something tantalizing about being able to almost grasp this very hypothetical concept.

Richard Lowery explained to us how the heat radiating from living things can be recorded on video and its applications. He then treated us to lush images he made with borrowed equipment, photographing dancers and showing the thermal differences with false colors. Then curvilinear designs created by fluid motion from researchers all over the world were presented by Milton Van Dyke. Besides being a visual turn-on, they demonstrated that fluidity is a basic quality of reality.

John Downing also gave a detailed talk on human perception of light and his theories of the influence of all wavelengths of light on health.

Yelm Performance

By Trudy Myrrh Reagan

The first public Ylem performance, "Cymatic Music and Dazes of Delight" was given at the Palo Alto Cultural Center the evening of February 5th. It was a multi media event in two parts.

First Ron Pellegrino demonstrated how sound waves electrically produced by a synthesizer or vocal recordings could at the same time be shown as light images. These electrical signals can be routed to an oscillating mirror, partly under manual control, which reflects laser light onto the screen. Interesting patterns that move with the music are produced.

Next tender and exotic images photographed all over the world by Frank Fehling, and his visionary paintings, were produced as a multi-projector slide show by Louis Brill. They were accompanied by music composed by Fehling on such instruments as guitar.

Watch for future workshops, performances and film festivals at the Cultural Center. If you have something to offer the public, please write Trudy Myrrh Reagan, 967 Moreno, Palo Alto, CA 94303, with a proposal.

HAPPY BIRTHDAY!

As of February 20, YLEM is two years old. Happy Birthday to us!

NEED A RIDE?

Eleanor Kent, (415)647-8502, will help people wanting to form a San Francisco carpool to the March 26 YLEM meeting.

Garage Sale

Get your spring cleaning done before April 9, so you can contribute your surplus art, books and gadgets that relate to science, computers and/or art to the YLEM garage sale.

We need funds. Recent expenses for February and March programs have created a deficit. Consequently we are having a garage sale on April 9 and 10 from 9am until 4pm at Trudy Reagan's house at 967 Moreno, Palo Alto.

Bring all your saleable surplus to the March 26 meeting or to Trudy's house between now and April 9.

MEMBERS IN THE NEWS.....Martha and Alan Nicoloff's solar spectrum sculpture was recently installed outside of Kroeber Hall on the UC Berkeley Campus.....Eleanor Kent will be a demonstrator of computer graphics equipment at "Tec Foto '83" during the evening of March 26.

Letters

To Ylem

Dear YLEM:

I am havinging a wonderful vacation. We are out on the streets walking - painting, swimming, shopping in the daily market. We hope to stay here thru September.

Best wishes,
Merry Renk
c/o Phugues
22 Rue G. Clemenceau
06400 Cannes, France

Dear YLEM:

Since I talked to you last, I have accepted an unpaid position as an artist in residence at West Coast University in Los Angeles. The computer facility has an Evans and Sutherland PS300 with a VAX host computer. Also, we have just received a RAMTEK Frame Buffer with a monitor having 1024 lines of resolution. More graphic equipment will be coming in the future.

Bob Holzman, dean of the computer department, has allowed a group of artists to use the system during the day. He hopes that eventually WCU will become a widely known center for computer art. WCU is basically a night school for professionals who want to continue their education and that means that the computer facility would go unused during the day. Hence computer art wins the day!

Sincerely,
Robert E. Bower
2709 N. Fair Oaks Ave.
Altadena, CA 91001

Resource List

List of books, articles, and services for artists who use science and technology.

Artist and Computer, edited by Ruth Leavitt (Harmony Books, 1976). A collection of articles by artists who use computers in their work. Put together for the magazine Creative Computing. ("Actually, there is no such thing as 'computer art'!", page VIII).

Fundamentals of Interactive Computer Graphics, by J. D. Foley and A. Van Dam (Addison-Wesley, 1982). A textbook on computer graphics for implementors. Hardware discussion and a simple graphics package are presented. Also some not necessarily interactive subjects such as hidden surfaces, shading and a chapter on color.

Principles of Interactive Computer Graphics, by William M. Newman and Robert F. Sproull (McGraw-Hill). A textbook for computer graphics for implementors. Includes detailed description and source code for the Watkins hidden surface algorithm.

Computer Graphics World, a monthly publication. Covers all areas of computer graphics and image processing. Lots of pretty pictures and general discussion but little technical detail. Available at many computer stores.

"Artists Use Computer Graphics as New Palette and Canvas" - animated political cartoons, movie sequences and ads. Infoworld, November 1982 issue.

Creative Computing, graphics issue, January 1981. "Must have" for computer graphics. Most of the articles on graphics.

"Computer Art: Sculptures of Polyhedral Networks Based on Analogy to Crystal Structures Involving Hypothetical Carbon Atoms", Leonardo International Journal of Contemporary Visual Artists, Volume 15, number 2, Spring 1982.

Byte, graphics issue, November 1982. Includes articles on animation, logo, fractal imagery, audio digitizer and interactive 3-D graphics.

COMPUTER ARTS FOUNDATION is trying to put together an environment geared for creative expression and exploration on computers on a non-profit basis. If interested contact Guy Nouri, Interactive Systems, 404 South Street, Philadelphia, PA 19147.

SLIDE TEK, a slide production company using a custom microcomputer with 16 million colors, offers services to artists, corporations and producers. In the future they plan to have seminars to demonstrate their system and to give artists hands on experience. Write Slide Tek, 346-8 3rd Avenue, San Francisco 94118 for more details.

GIANT HARD COPY: anyone knowing the address of a company that uses computer graphics to make wall or rug sized designs, please share with SIGM by writing Joanne Hicks, 817-8 High Street, Palo Alto, CA 94301. This information will be published in the next newsletter. We have heard rumors of a billboard company in Los Angeles and a rug company in North Carolina that use computer driven sprayers. What we need is a machine to make high resolution hardcopy that is 20x30" in saturated color whose prints are so inexpensive that artists are encouraged to make new versions to revert and improve the image.

Special thanks to Don Hookom for assistance with the Resource List.

Number Art by Frank Dietrich

Using the microcomputer graphics system, ZGrass UY-1 and number games, Frank Dietrich creates images like the one shown here. To create this image Dietrich used the Magic Square the Arabs used to represent the astrological constellation of the stars. The numbers are arranged so that the sum of each row or column or diagonal is always the same. This 4x4 Magic Square is the square of Jupiter. The drawing program of the graphics system scans through rows and columns and relates them to an XY grid and plots boxes or circles on the TV screen.

Dietrich says, "These concepts of Magic Squares are so general that they could be used to produce new pictures on any system. We look forward to getting feedback from readers who feel encouraged to give it a try, wandering off into other stimulating regions of Pixieland." Dietrich can be reached by writing 4214 East Broadway, Long Beach, CA 90803.

About Our Cover

Cover artist Aaron Marcus is a graphic designer with 15 years of experience in information design and computer graphics.

He taught and practiced graphic design at Princeton University for nine years. During this period he also served as a consultant in computer graphics at Bell Labs, where he programmed an interactive page design system for the Picturephone. More recently Marcus was a staff scientist in the Department of Computer Science and Mathematics, Lawrence Berkeley Laboratory.

His expertise lies in developing effective formats and graphic design systems for computer generated texts, tables, charts, maps and diagrams, as well as design of user/machine interfaces and program visualization concepts.

Marcus has written, "The visual form of literature in the coming decades will be a literature of light. Every facet of technology is leading in the direction: from incorporeal keyboards, to lighted alphanumeric displays, to cathode ray tube and plasma screens. The optical compulsion which overtakes viewers staring into a television or movie screen is about to be added to the world of the printed word."

Marcus has now formed his own company, Aaron Marcus and Associates, that specializes in computer based visual communications research and design. Aaron Marcus and Associates is located at 1196 Euclid Avenue, Berkeley, CA 94708-1640.

FINDING THE SOUL IN COMPUTER ART

A discussion held on March 26, 1983 in Palo Alto, CA by YLEM : Artists Using Science and Technology. Discussion leaders = Kenneth Knowlton and Robert Dewar. Both of them have been doing computer graphics since the 1960's, Knowlton at Bell Labs, and Dewar at the Jet Propulsion Laboratory. Both are now working elsewhere. Note: This discussion has been reconstituted from sketchy notes taken by Trudy Myrrh Reagan at the meeting.

Deanne Dalbridge, YLEM Program Director, opened by observing that the fine arts and design communities have a negative perception of computer art = "A fascist would love it, because it only follows rules." That is to say, the stereotype is that it is cold, calculating, and uncreative; that it uses math, is linear and left-brain. "Will it require a new kind of artist?"

The computer artists' reply = with respect to math, more and more software is being written that takes care of this for the artist. Some things that artists want to do but that are simply too tedious by hand (detailed patterns, making changes, doing animation) can be done fast. The computer is a more flexible tool than most artists imagine. Ken Knowlton observed that both sides of the brain are engaged in making computer art. You still need the right brain to grasp the problem/solution as a whole. And, he said, "When the computer is doing things for you quickly, you feel a tremendous sense of immediacy." The artist has many more options he or she can explore, if they can be executed quickly.

Robert Dewar observed that more options allow the artists themselves to grow, to extend their concepts to greater lengths, and to explore more of their implications than was possible before. Free-associating with the machine leads artists to unsuspected aspects of themselves.

Glenn Entis (whose work at Pacific Data Image was shown earlier in the meeting) spoke about the translation of numerical data into shapes and sizes by computer = "This is a powerful new communications tool. Will 'information' be a new subject for artists?", and "We've talked some about concepts. The computer, like language, is a powerful tool to explore concepts."

Some doubts and discontent were voiced by the computer artists themselves. All wished for better output from computers. What if output were 200% the size of typing paper, as handsomely colored as the image on the screen, durable, yet cheap enough that the artist who was disappointed could freely discard it and try again. Trudy Myrrh Reagan observed, "Lithographers have it better than us." Currently, the best output seems to be colored slides. Since these can be used in 4-color printing, magazines are currently the chief "gallery" for static computer art. TV is where its moving images are most often seen.

Others noted sadly that the military and advertising are the big users. This is where the money is for hiring graphics people and buying the big machines. (ed. note = Robert Dewar recently quit JPL because its work on military simulations continually increases.)

More fundamentally, observed Ken Knowlton, "We are full of gutsy concerns that are very ill-defined, but are very compelling. Our aesthetics, the way we know and feel, is very different from what is happening inside the computer as we manipulate images on it. It is important to keep this distinction clear. The computer is an unlikely tool for our aesthetics at its present stage."

Eddie Oshins, who studies logical structures and their relation to neutral processes raised the question : "Are ambiguity and nuance [illegible], since binary logic operates on yes-or-no answers?" He studies a less-well-known logic called quantum logic which can yield yes-and-no results. Invented for explaining behavior of sub-atomic particles, its structures are being applied by a few people like Eddie to explain how concepts and decisions are made by people. He said that professors remark that students write stuff on word processors that is pretty dry - it lacks richness and surprise. The ability to think in terms of ambiguities and paradoxes is a great gift for getting our heads around the huge problems of existence. (Shall we infer from this that using computers too much will stunt our intellectual growth?) (Hewlett-Packard and others are experimenting with 3-valued logic systems for the user).

Others remarked that they were tired of the antiseptic graphics that result when artists just do the easy thing. Yet the pressures to perform this way are intense in the commercial world.

(Ken Knowlton said afterward : "If you feel that you finally understand what you are doing on the computer, there is something repetitive happening. Stop and write a program for that, and go on to something else that you don't understand. Computer art should be a process of plunging into the unknown.")

Should artists learn programming? One opinion was no, people who write efficient programs have a different sort of talent. It is rare that an artist will be good at it, so artists should collaborate.

Ken Knowlton stated the opposing view: " A good collaboration is like a song-writing team, with each partner understanding very well what the other is doing. I've had tremendous frustration collaborating with artists.They say I'm not giving them the right tools, while I'm thinking that they aren't using the tools I'm giving them right." Other comments in this vein - "The best programs for doing art are written by artists, because they know best what needs to be implemented. " Artists should regard acquiring programming ability as an investment. "Even if you do not do it well, you can more successfully collaborate with those who do when you are familiar with it.

Finally, the subject of "soul" in computer art was tackled. YLEM Director, Trudy Myrrh Reagan, saw similarities between computer art's potential to create more and more wonderful patterns, and the way the Renaissance and Baroque music did this when music notation became a musical stimulus as much as singing, dancing, and musical instruments. She mentioned the game of writing canons (complex rounds) which continued for 300 years. But, she seemed to demand more: "In thinking of great artists of the past, Rembrant, Goya, and more recently, Escher, I find I love them for the understanding that their whole body of work gives me. It's the artist's Point Of View that makes the highest level art."

Robert Dewar said : " The 'soul' is in the artist. Only he knows why it needs to be created. With the computer he forms a vision of something which is not possible to do by hand." (Earlier he had shown slides of his own work. Some were about his work with his "ditherizing" program, which developed a system of dot patterns now widely used to code each grey level in televised images*; some of this program builds on Ken Knowlton's work; some were about hexagonal displays of digital data which provide better resolution, and handsome patterns; and his most recent works, in which

he has explored complex polygonal structures with subtle characteristics. He found that by slightly squashing structures like dodecahedra, he could make them pack perfectly into large units similar to organic chemicals and viruses. The computer calculates the distortion of each polygon face. Dewar uses the printed-out faces to make his structures by hand. The calculations would be almost inconceivable without the computer.) "This has led me to a personal vision of a complex, ordered structure of the universe, and an appreciation of its tendency toward perfection." Trudy remarked, "This is the kind of overall view I was speaking of."

But can computer art show emotion? Artists and others have reservations about the medium because we have not seen anything that deeply moves us. At the beginning of Bob Dewar's slides,he had shown a sketch of a piano player, which referred to the idea that the computer is a tool for art in the same way that a keyboard instrument is a tool for music. We closed the discussion by observing that composers wrote keyboard music prolifically for two hundred years before the keyboard was seen as a vehicle for the expression of titanic emotions by Beethoven. Who really knows the potential for this medium?

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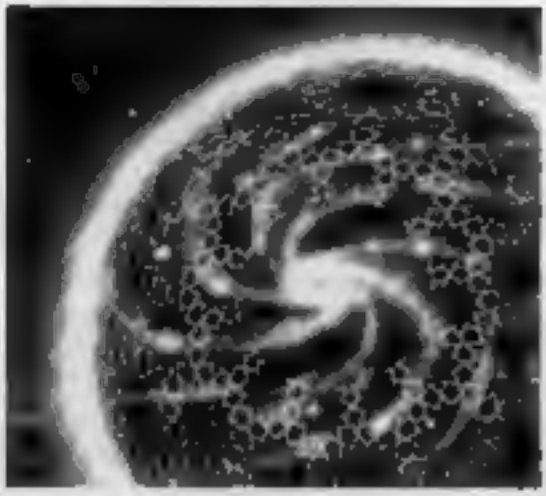

The image shown here was created by Janaia Donaldson and John Warnock as book cover art for Music from the Hearts of Space: A Guide to Cosmic, Transcendent and Innerspace.

Janaia says she developed the concept by working with her client. Once she worked up the visual idea in sketch form, it was computer generated by John Warnock at Xerox Palo Alto Research Center.

"We went through a number of stages, starting from a single star up through a sphere-like shape, including the curves and off-centered area in the middle," said Janaia.

After John had gotten the pattern on the computer Janaia used it as a master and trace-inked the dot pattern. She said she felt this added the human touch and made the pattern look more "accidental".

Janaia is an independent graphic designer and illustrator working in Palo Alto. She co-founded, coordinated and currently teaches in the Certifigate Program in Graphic Design through the University of California Santa Cruz.

"My current focus is on airbrush illustration and accompanying design," she says. "I hope to work more in computer generation of images, especially using the computer to create the kinds of images that we've not seen before, and that reflect both complexity and harmony."

MAILING LIST UPDATE

Please add the following names and addresses to your mailing list. All area codes are 415 unless indicated otherwise.

New Members

Mike Marshall
3351 Bryant St.
Palo Alto, CA 94306
Home: 857-0795
computer art

Star Saler
1930 Montecito
Mountain View, CA 94043
Home: 969-2797
cosmic painter

Alex Nicoloff
1729 Virginia St.
Berkeley, CA 94701
Prism sculpture

Marlowe and Allen
510 3rd Street
San Francisco, CA 94107
art brokerage

Vincenzo Bessia
465 San Luis Ave.
Los Altos, CA 94022
Home: 949-3355
graphic designer

Lawrence Hicks
617-B High St.
Palo Alto, CA 94301
Home: 326-4188
journalist

Lois Johnson
234 Emerson
Palo Alto, CA 94301
Home: 323-2324

Dolores Reggie
936 Bermuda Court
Sunnyvale, CA 94086

David Healy
275 Stanton St.
San Francisco, CA 94114

David Outer
1114 Addison St.
Berkeley, CA 94702

David Brennan
3233 Madison St.
Alameda, CA 94501
Home: 522-3555

Address Changes

Progressive Space Forum
Jon Alexander
1724 Sacramento
San Francisco, CA 94109
graphic design, space, evolution

Frank Dietrich
Kaufman Helmer
4214 East Broadway
Long Beach, CA 90803
Home: (213)433-7503

Maxine Beltridge
2990 Jackson, #2
San Francisco, CA 94115

Maude Church
5412 Bryant Ave.
Oakland, CA 94618
Home: 547-5630

Howard Pearlmutter
Graphics Gathering
PO Box 7200
Santa Cruz, CA 95063
(408)425-8700

Corrections

Rita Robillard
1166 Delaware St.
Berkeley, CA

Greenberger
Eclectic Electric
49 Showers Drive
Mountain View, CA

Louis Brill
Theatre of Performing Lights
PO Box 31252
San Francisco, CA 94131

IS THERE A COLORED ENVELOPE
IN YOUR DRAWER WITH YOUR BILLS?
KEEP THOSE RENEWALS COMING.
TLEN WANTS TO BE SELF-SUFFICIENT
AND NOW HAVE TO RAISE DOES.

Ylem *(Eye-lum): 1. The primordial stuff out of which the universe emerged. 2. An emerging group of artists who believe that science and art enhance each other and human understanding.*

The range of works produced by Ylem artists extends from ones representing cosmological and biological subjects to abstract or conceptual works; and from traditional media which are put to new uses to such high-tech media as computer animation and holograms. Aesthetics and perception, the humanistic uses of high-tech equipment, and the changes in paradigm created by science discoveries in this century are of vital interest to Ylem artists.

Ylem offers:

- A newsletter featuring Ylem artists' work and philosophy resource information; events calendar.
- Bi-monthly programs: each features a central topic with artist speakers and people with science information, plus informal sharing and art display. The six meetings a year are held on odd-numbered months, on the Saturday closest to the 20th of the month.

I would like:
( ) to receive a sample issue.
( ) a year's membership. $10 is enclosed.
( ) newsletter only, since I live more than 100 miles from both San Francisco and Palo Alto. $5 is enclosed.

My needs, interests, specialties:

Name_____

Address_____

City_____ Zip_____

Phone ( )_____

Suggestions, other interested artists:

Send to Ylem, 987 Moreno, Palo Alto, CA 94303

Ylem

ARTISTS VISION SCIENCE & TECHNOLOGY

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